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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/663,728	09/17/2003	Junichi Nakaho	740165-362	2220
22204	7590	04/18/2005	EXAMINER	
NIXON PEABODY, LLP 401 9TH STREET, NW SUITE 900 WASHINGTON, DC 20004-2128			AMARI, ALESSANDRO V	
			ART UNIT	PAPER NUMBER
			2872	

DATE MAILED: 04/18/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/663,728

Applicant(s)

NAKAHO, JUNICHI

Examiner

Alessandro V. Amari

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 08 February 2005.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-10 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-10 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

2. Claims 1-6 are rejected under 35 U.S.C. 102(b) as being anticipated by Rauh et al US 4,889,414.

In regard to claim 1, Rauh et al discloses (see Figure) a reflecting mirror comprising a substrate (14) through which light passes; an electrode film (12) which is electrically conductive, which is substantially transparent, and which is formed at a rear surface side of the substrate, a reduction coloring film (16) formed at a surface of the electrode film at a side opposite a side where the substrate is disposed, the reduction coloring film coloring due to a reversible chemical reaction with hydrogen ions as described in column 3, lines 22-43; and an electrically conductive reflecting film (18) which is formed at a surface of the reduction coloring film at a side opposite a side where the electrode film is disposed, and which reflects light at least at a substrate side surface, and which contains a hydrogen storing metal which stores hydrogen in an adsorbed state, and which, due to application of voltage, releases hydrogen and moves the hydrogen as hydrogen ions toward the reduction coloring film, and which, due to one of canceling of the application of said voltage and applying of a voltage which is reverse of said voltage, attracts the hydrogen ions that have moved toward the

reduction coloring film and adsorbs and stores the hydrogen ions as hydrogen wherein said reflecting film is highly reflective of light regardless of whether said hydrogen storing metal releases or adsorbs said hydrogen ions as described in column 5, lines 42-58, column 6, lines 25-39 and column 7, lines 1-42.

Regarding claim 2, Rauh et al further discloses an ion conducting film (20), which contains a dielectric and through which hydrogen ions can pass, is provided between the electrically conductive reflecting film and the reduction coloring film as described in column 6, lines 5-22.

Regarding claim 3, Rauh et al discloses that the hydrogen storing metal comprises at least one selected from the group consisting of palladium (Pd), rhodium (Rh), platinum (Pt), and alloys having functions equivalent to those of these hydrogen storing metals as described in column 5, lines 59-68 and column 6, lines 1-4.

Regarding claim 4, Rauh et al discloses that the electrode film comprises ITO as described in column 3, lines 6-19.

Regarding claim 5, Rauh et al discloses that the reduction coloring film comprises an oxide of tungsten as described in column 3, lines 44-53.

Regarding claim 6, Rauh et al discloses that the reduction coloring film is colored due to a reversible chemical reaction with the hydrogen ions as described in column 3, lines 31-53. Although the prior art does not specifically disclose that the reduction coloring film is colored to a bluish color, this is seen as an inherent teaching of the device since the materials cited in the prior art (WO_3 and hydrogen ions) would have a chemical reaction such that the reduction film would be colored to a bluish color.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claim 7 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rauh et al US 4,889,414.

Regarding claim 7, Rauh et al discloses the claimed invention but does not teach that the dielectric comprises at least one selected from the group consisting of tantalum oxide, silicon oxide and magnesium fluoride. It would have been obvious to one having ordinary skill in the art at the time the invention was made to select one of the materials claimed above for the dielectric, since it has been held to be within the ordinary skill of a worker in the art to select a known material on the basis of its suitability for the intended use. One would have been motivated to select one selected from the group consisting of tantalum oxide, silicon oxide and magnesium fluoride for the purpose of providing a dielectric that has superior insulating properties to prevent device from short circuiting. *Sinclair & Carroll Co. v. Interchemical Corp.*, 325 U.S. 327, 65 USPQ 297 (1945)

5. Claims 8 and 9 are rejected under 35 U.S.C. 103(a) as being unpatentable over Rauh et al US 4,889,414 in view of Ohno et al US 5,469,296.

Regarding claims 8 and 9, Rauh et al teaches the invention as set forth above but does not further teach in regard to claim 8, a control means, wherein the electrically

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conductive reflecting film and the electrode film are connected to a power source via the control means or regarding claim 9, a light sensor.

Regarding claim 8, Ohno et al teaches (see Figure 1) a control means (10, 11, 12), wherein the electrically conductive reflecting film and the electrode film are connected to a power source via the control means as described in column 5, lines 10-42.

Regarding claim 9, Ohno et al teaches (see Figure 1) a light sensor (8, 9).

It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the control means and the light sensor as taught by Ohno et al in the device of Rauh et al in order to provide for more precise control of the reflectivity of the mirror.

6. Claim 10 is rejected under 35 U.S.C. 103(a) as being unpatentable over Rauh et al US 4,889,414 in view of Official Notice.

Regarding claim 10, Rauh et al teaches the invention as set forth above but does not teach a rearview mirror comprising the reflecting mirror. Official Notice is taken that it is notoriously old and well known in the mirror art to utilize electrochromic mirrors in automobiles as rearview mirrors. It would have been obvious to one having ordinary skill in the art at the time the invention was made to utilize the electrochromic mirror of Rauh et al in a rearview mirror in order to provide for a light modulating mirror which reduces glare.

Response to Arguments

7. Applicant's arguments filed 8 February 2005 have been fully considered but they are not persuasive.

The applicant argues that the prior art of record, does not teach that the reflecting film reflects light regardless of whether said hydrogen storing metal releases or adsorbs said hydrogen ions as recited in amended claim 1. In particular, the prior art, Rauh discloses a light modulating device for transmitting light and which includes a reflective layer 16 which is highly reflective when injected with electrons and charged compensating ions and highly transmissive when these species are removed. This device further includes a ceramic layer 18 capable of reversibly inserting an alkaline metal or hydrogen ions into layer 16 in response to an applied DC current. Layer 18 is described as "preferably substantially non-reflective when reduced ..." Hence, the applicant concludes that neither layer 16 or 18 of the Rauh patent qualifies as the recited "electrically conductive reflective film" which is highly reflective of light regardless of whether said hydrogen storing metal releases or adsorbs said hydrogen ions.

In response to this argument, the Examiner would like to point out that layer 16 was identified as the reduction coloring film and layer 18 was identified as the electrically conductive reflective layer in the prior art, Rauh. Rauh teaches that layer 18 acts as an ion storage medium for hydrogen ions and which at the application of a voltage, releases hydrogen and moves the hydrogen ions toward the reduction coloring film as described in column 5, lines 42-46. Rauh further teaches in regard to the reflective properties of layer 18 (see column 5, lines 46-49):

...is preferably substantially non-reflective when reduced ($R \leq 10\%$), and does not absorb significant amounts of sunlight when device 10 is bleached.

Thus, Rauh teaches that layer 18 is reflective to some degree. The Applicant contends that layer 18 is not "highly reflective of light regardless of whether said hydrogen storing metal releases or adsorbs said hydrogen ions" as recited in amended claim 1.

However, nowhere in the specification has the applicant defined the term "highly reflective" in terms of degree. Therefore, given the broadest reasonable interpretation, layer 18, the reflecting film is taken as reading on the current claim recitation.

The applicant further argues claim 1 requires that the electrically conductive reflecting film contain a hydrogen storing metal whereas Rauh discloses that suitable materials for layer 18 (i.e., the reflecting film) include various oxides of metals.

In response to this argument, the Examiner would like to point out Rauh does teach a hydrogen metal as described in column 5, lines 54-55 reproduced below:

Layer 18, which is formed by vacuum deposition or sputtering, also **contains hydrogen or alkali metal**, ... (emphasis added)

Rauh further teaches that the hydrogen metal can include rhodium (see column 5, line 67) which is also consistent with claim 3 which recites that the hydrogen storing metal can comprise rhodium. Furthermore, given the broadest reasonable interpretation, a metal oxide can be taken to read on the recitation of the reflecting film containing a hydrogen metal, since the oxide, by definition contains a hydrogen storing metal.

The applicant further argues that amended claim 1 is further patentable over the Ohno '296 patent, taken singly.

In response to this argument, the applicant is reminded that there was no rejection for claim 1 provided using Ohno. Ohno was combined with Rauh only in regard to the obviousness rejection for claims 8 and 9.

Conclusion

8. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alessandro V. Amari whose telephone number is (571) 272-2306. The examiner can normally be reached on Monday-Friday 8:00 AM to 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Drew Dunn can be reached on (571) 272-2312. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ava *am*
05 April 2005


MARK A. ROBINSON
PRIMARY EXAMINER